



EPA Region 5 Records Ctr.



361633

REMEDIAL DESIGN WORK PLAN RESIDENTIAL WELL ABANDONMENT AND MUNICIPAL WATER SUPPLY

HIMCO SITE
ELKHART, INDIANA

Prepared For:
Himco Site Trust

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1.0 INTRODUCTION

This Remedial Design Work Plan for Residential Well Abandonment and Municipal Water Supply (Water Supply Work Plan) has been prepared in accordance with Section VI, Paragraph 11 of the Consent Decree (CD) for Remedial Design and Remedial Action (RD/RA) for the Himco Site (Site) in Elkhart, Indiana. Conestoga-Rovers & Associates (CRA) was retained by the Performing Settling Defendants (PSDs), collectively known as the Himco Site Trust, to prepare this RD Work Plan.

The Site is a closed, unlicensed landfill located at the intersection of County Road 10 and the John Weaver Parkway (formerly Nappanee Street Extension) in Cleveland Township, Elkhart County, Indiana. The Site is approximately 60 acres in size, and accepted waste such as household refuse, construction rubble, medical waste, and calcium sulfate between 1960 and 1976. The landfill was closed in 1976.

The Site was proposed for the National Priorities List (NPL) in 1988 and was placed on the NPL in 1990. The RD/RA is being conducted pursuant to the CD, which became effective on November 27, 2007. The lead Agency for the Site is United States Environmental Protection Agency (USEPA) Region 5. Indiana Department of Environmental Management (IDEM) is the support Agency.

The Site location is shown on Figure 1.1. A layout of the Site, including property boundaries is provided on Figure 1.2. An aerial photograph depicting the residential properties east of the Site is provided on Figure 1.3.

The Site consists of two major areas: the landfill, which is covered with calcium sulfate and a layer of sand, and the 4-acre construction debris area (CDA) located on the northern portion of seven residential properties and one commercial property. Municipal water supply was provided to these seven residential properties in 1991, but their potable water supply wells remain intact. Section II, Paragraph 4.3.2 and Paragraph 4.3.3 of the Statement of Work (SOW) for the RD/RA states that the PSDs shall provide municipal water supply to an additional 39 residences located east of the Site, 18 of which are located in a buffer zone designated by USEPA. The SOW also requires the abandonment of the water supply wells at all 46 residential properties.

This Water Supply Work Plan specifically addresses the tasks outlined in Section II, Paragraph 4.3.2 and Paragraph 4.3.3 of the SOW. As previously discussed with USEPA, the scope of work for the municipal water connections and private water supply abandonments is prescribed in the CD and the SOW, and does not require an extensive pre-design investigation like the remainder of the RD components. Further, residents

have expressed concern about the ongoing use of private wells in the vicinity of the Site and the buffer zone adjacent to the Site. In order to expedite the municipal water connections portion of the work, and the associated abandonment of private supply wells, the work plan for these components of the RD/RA is provided under separate cover from the Remedial Design Work Plan (RD Work Plan) for the remainder of the RD activities at the Site. The RD Work Plan includes the Field Sampling Plan, Quality Assurance Project Plan, and Health and Safety Plan for the RD.

The following sections discuss the goals for the RD/RA and organization of this RD Work Plan.

1.1 PURPOSE

The purpose of this Water Supply Work Plan is to document the overall management strategy for performing the design, construction, operation, maintenance and monitoring of the municipal water supply and well abandonment components of the RA. This Water Supply Work Plan documents the responsibility, authority, and qualifications of the organizations and key personnel implementing and directing this component of the RD. A schedule to complete the municipal water supply and well abandonment components of the RD activities is also included in this Water Supply Work Plan.

1.2 WORK PLAN ORGANIZATION

This RD Work Plan is organized as follows:

- Section 2.0 provides background information on the Site;
- Section 3.0 describes the scope of work for the RD/RA;
- Section 4.0 presents our recommended approach for the Pre-Design Investigation, including assumptions critical to the development of the scope of the investigation;
- Section 5.0 describes the phases of the RD;
- Section 6.0 presents the project schedule; and
- Section 7.0 describes the responsibility and authority of the organizations implementing the project, and the qualifications of key project personnel.

2.0 SITE BACKGROUND AND SETTING

2.1 SITE DESCRIPTION

The Site is a closed, unlicensed landfill located at the intersection of County Road 10 and the John Weaver Parkway (formerly Nappanee Street Extension) in Cleveland Township, Elkhart County, Indiana. According to the Amended Record of Decision (ROD), the Site is approximately 60 acres in size, and accepted waste such as household refuse, construction rubble, medical waste, and calcium sulfate between 1960 and 1976. According to the Remedial Investigation/Feasibility Study (RI/FS) (SEC Donahue, 1996), an estimated two thirds of the waste in the landfill is calcium sulfate. The landfill was closed and covered with a 1-foot layer of sand overlying a layer of calcium sulfate in 1976.

The waste on Site is in contact with the water table. The RI/FS states that residents near the Site reported complaints of color, taste, and odor problems in shallow water supply wells as early as 1974. Deeper potable water supply wells were installed for some residents in the 1970s. High levels of sodium in these deep wells eventually lead to the requirement to supply municipal water to these residents in 1990. The presence of a clay confining layer on Site was not confirmed by investigations completed during the RI.

The 1981 USGS report titled "Hydrologic and Chemical Evaluation of the Ground-Water Resources of Northwest Elkhart County" indicates the absence of the clay layer and a deep bedrock valley in the vicinity of the Site.

The Site consists of two major areas: the landfill, which is covered with calcium sulfate and a layer of sand, and the 4-acre construction debris area (CDA) located on the northern portion of seven residential properties and one commercial property. Soil samples collected from the landfill and areas surrounding the landfill contained low concentrations of volatile organic compounds (VOCs) and arsenic, both of which are believed by USEPA to be associated with the Site. Polynuclear aromatic hydrocarbons (PAHs) were also detected in soil samples from the south-central portion of the landfill. Soil samples collected from the CDA during the RI contained PAHs and metals (particularly arsenic) that may be associated with CDA dumping activities. Total VOCs in waste mass gas samples collected during the RI were low. According to the reports prepared by USEPA and the United States Army Corps of Engineers (USACE), soil gas samples collected east and south of the landfill contained VOCs at low concentrations, but demonstrated that soil gas-containing VOCs is migrating from the landfill and would need to be collected.

Surface water and sediment samples collected from the three on-Site ponds during the RI revealed very limited contamination. USEPA concluded that no further action would be required for the ponds.

Groundwater on Site flows southeast in three water-bearing units. The predominant hydraulic gradient is downwards according to the Supplemental Site Investigation/Site Characterization Report (USEPA, December 2002) (SSI/SCR), but may in fact be upwards, as observed regionally. Historic groundwater samples collected from the Site contained general chemistry parameters (such as sodium), low part-per-billion concentrations of VOCs and sporadic detections of metals. A "hot spot" of VOCs contamination in groundwater was identified on the south side of the landfill, where seventy-one 55-gallon drums of waste, including toluene, were removed in 1992. The USEPA sampled 21 residential wells in 2000 and found the presence of low concentrations of VOCs and concentrations of metals that exceeded screening criteria.

To date, including during post-RI sampling, only low-level groundwater contamination has been detected off Site. The RI concluded that the greatest potential for contaminant migration from the Site is through the groundwater pathway. The exposure pathways identified by the baseline risk assessment completed for the Site include ingestion of contaminated groundwater, incidental ingestion of contaminated soil, and inhalation of VOCs in groundwater and soil gas.

2.2 SITE SETTING

The Site is bordered to the north by a quarry pond and agricultural land; to the east by the John Weaver Parkway (formerly Nappanee Street Extension), and beyond by residential properties; to the south by residential properties and County Road 10; and to the west by undeveloped land and agricultural properties.

The Site is currently not fenced. A locked gate is reportedly present at the southeast corner of the Site, however, vehicles can easily drive around the gate and enter the Site.

3.0 RD/RA SCOPE OF WORK

3.1 ROD AND SOW

To date, all investigations of the Site have been completed under the direction of USEPA. The 2004 Amended ROD, which replaces the previous ROD developed in 1993, addresses risks to human health not fully addressed by the earlier ROD. The key components of the remedy for the Site are as follows:

- i) Landfill cover assessment and repair;
- ii) Landfill gas collection system;
- iii) Site security, maintenance, and institutional controls;
- iv) CDA remedy (excavation and removal of soil and debris or placement of soil cover over soil and debris);
- v) Residential well abandonment and groundwater institutional controls;
- vi) Municipal water connections;
- vii) Groundwater investigation and long-term monitoring; and
- viii) Removal of all surface debris.

This Water Supply Work Plan addresses the portion of the remedy listed under Item v), above.

The RD/RA for the Site consists of six tasks, as outlined in the SOW:

- i) RD Work Plan;
- ii) Remedial Design Phases;
- iii) Remedial Action Work Plan;
- iv) Remedial Action/Construction;
- v) Operation & Maintenance; and
- vi) Performance Monitoring.

Due to the number of components of the RA and the phased approach appropriate for the scope of work, the RD and RA Work Plans will consist of a series of submittals to the Agencies. The RA will also be completed in a phased approach.

In order to expedite municipal water connections portion of the work, and the associated abandonment of private supply wells, the work plan for these components of

the RD/RA have been submitted separately from the RD Work Plan. As previously noted, the PSDs' goal in separating the work plans is to facilitate USEPA approval of this Water Supply Work Plan and allow faster implementation of the RA, thereby addressing residents' concerns about the existing water supply.

4.0 REMEDIAL DESIGN ACTIVITIES

4.1 SUPPLY WELL ABANDONMENTS

Table 4.1 presents the water supply well abandonment list. Based on information found online from the Indiana Department of Natural Resources (IDNR) website, the residential supply wells east of the Site are typically 4-inch diameter wells installed to an average depth of 50 feet below ground surface (ft bgs). The residential supply wells on the southern portion of the Site are typically 2-inch diameter wells installed to an average depth of 175 ft bgs.

In order to define the scope of work for well abandonment, CRA will attempt to obtain private well records for each of the 46 homes listed on the well abandonment list provided in the Amended ROD. If records are not available, CRA will inspect each property in order to assess the depth and location of the supply well, as well as details on the pump and piping to be disconnected. The PSDs have commenced negotiations with residents to obtain access to their properties as part of the requirement to restrict future use of groundwater on each property.

Following completion of the inspections, CRA will develop a scope of work to use for bidding purposes for contractors. All wells will be abandoned in accordance with Indiana Administrative Code, 312 IAC 13, Rule 10. CRA will procure the services of a well driller licensed by the state of Indiana to abandon the wells.

The general sequence for well abandonment is as follows:

- locate the well;
- remove the pumping equipment;
- chlorinate the well;
- backfill the well with neat cement, bentonite slurry or pelletized bentonite;
- cut the well casing off 2 ft bgs;
- cap the well if possible;
- install a cement plug over the well;
- restore the ground surface at the well; and
- file a well abandonment report with the IDNR.

Any wastes, including pumps, drop pipes, and other equipment in the well will be removed from each property and disposed of at a local scrap metal dealer or a local

licensed landfill unless the resident requests that the materials be left at the property. The water lines connecting the wells to the dwellings will be disconnected at the well and left in place and will not need to be removed or disposed of.

CRA's role will be to act as a liaison between the driller/contractor, the PSDs, and the well owners/residents, and to oversee the abandonment of the wells.

4.2 WATER SUPPLY CONNECTION DESIGN

Municipal water will be provided to 39 homes on Westwood Drive and Northwood Drive (see Table 4.2). Figure 1.3 presents the preliminary layout of the water main extension as provided by the Public Works & Utilities department of the City of Elkhart. Based on the City's proposed layout, the scope of work includes the installation of:

- approximately 4,200 feet of 12-inch ductile iron pipe;
- approximately 1,440 feet of 8-inch ductile iron pipe;
- four hydrants; and
- thirty-nine taps and connections.

CRA will coordinate with the Public Works & Utilities department to refine the design of the water supply. This may include the following activities:

- pre-design meeting with representatives of the Public Works & Utilities department;
- request for existing survey information from the City of Elkhart;
- identification of existing utilities in the vicinity of the proposed alignment for the water main or services;
- site reconnaissance/inspection;
- surveying, if necessary;
- development of Preliminary (65%) Design drawings for review and approval by the City of Elkhart; and
- submittal of the Preliminary (65%) Design to USEPA.

If required based on lack of available information from the City of Elkhart, property features will be surveyed relative to the 1983 Indiana East State Plane Coordinate System, North American Datum (NAD) for horizontal control and the North American

Vertical Datum (NAVD) of 1988 for vertical control. Horizontal locations will be surveyed to the nearest 0.1-foot. Elevations will be surveyed to the nearest 0.01-foot.

Field work will be completed in accordance with the Health and Safety Plan (HASP) submitted as Appendix C to the RD Work Plan.

5.0 REMEDIAL DESIGN PHASES

5.1 PRELIMINARY (60%) DESIGN

In accordance with Section III, Task 2, Item 2.2 of the SOW, the Preliminary (60%) Design submittal will discuss the results of the Pre-Design Investigation and will present preliminary plans, drawings, and calculations, as appropriate, for the municipal water supply component of the RA. The submittal will include design assumptions, performance criteria, a summary of the anticipated operation, monitoring, and maintenance requirements, if any, and a draft contingency plan. CRA will provide a preliminary outline of the specification sections required for the RA construction, as well as an outline of anticipated permit requirements. CRA will also submit a preliminary construction schedule as required by the SOW.

5.2 PRE-FINAL (90%) DESIGN

In accordance with Section III, Task 2, Item 2.3 of the SOW, the Pre-Final (90%) Design will address USEPA's and IDEM's comments on the Preliminary Design, and will provide the following additional information:

- Draft Performance Standard Verification Plan;
- Draft Construction Quality Assurance Plan;
- Draft Health and Safety Plan;
- Draft Field Sampling Plan, if required;
- Draft Contingency Plan; and
- Draft Operation and Maintenance Plan, if required.

5.3 FINAL (100%) DESIGN

In accordance with Section III, Task 2, Item 2.4 of the SOW, the Final (100%) Design will address USEPA's and IDEM's comments on the Pre-Final Design, and will provide the following additional information:

- Final specifications and project drawings;
- Capital Cost Estimate for the well abandonment and municipal water supply component of the RA; and
- Final Project Schedule.

6.0 SCHEDULE

The preliminary project schedule illustrating expected progress through the RD Work Plan is presented on Figure 6.1. This schedule is consistent with the schedule submitted to USEPA and IDEM each month with the Progress Report.

The schedule start is based on agency approval of the RD Work Plan. As previously discussed in this Work Plan, the PSDs submitted this Water Supply Work Plan under separate cover from the RD Work Plan so that the review and approval of this portion of the work can proceed as soon as possible. The PSDs believe that it is in the best interest of the public to allow the provision of municipal water to residents to proceed as prescribed in the CD and SOW as soon as possible.

7.0 PROJECT MANAGEMENT

This section describes the project organization and responsibilities of the project team.

7.1 PROJECT ORGANIZATION

The organization structure of the project is shown on Figure 7.1 and is described below.

PSDs

The PSDs are represented by the Himco Site Trust. The Himco Site Trust is managed by Bayer Healthcare, LLC.

PSDs' Project Coordinator – Mr. Gary Toczyłowski, Bayer HealthCare

The PSDs have identified Mr. Gary Toczyłowski of Bayer HealthCare as their Project Coordinator. As Project Coordinator, Mr. Toczyłowski has overall responsibility for the implementation of the RD/RA and oversees the work of the Supervising Contractor.

The PSDs have identified Mr. Tom Lenz of Bayer HealthCare as their Alternate Project Coordinator. Responsibilities are the same as shown above as delegated by the Project Coordinator.

Supervising Contractor – Conestoga-Rovers & Associates

The PSDs retained CRA to act as Supervising Contractor for the RD/RA. CRA reports to the PSDs' Project Coordinator, Mr. Gary Toczyłowski. CRA's work for the RD will include, among other things, preparation of work plans, implementation and oversight of the work, reporting, and design of the remedy. Subcontractors will be selected by CRA to perform specific tasks such as drilling, surveying, laboratory analyses, etc. Subcontractors will be subject to approval by the PSDs' Project Coordinator prior to working on the Site.

7.2 RESPONSIBILITIES OF PROJECT TEAM

The key CRA project personnel and their responsibilities are as follows:

Project Manager – Alan Van Norman

- Management of CRA project team.
- Meetings with Himco Site Trust representatives and USEPA.
- Coordination of technical task leaders.
- Oversight of all project activities.
- Data evaluation.
- Preparation and review of deliverables.
- Technical representation of project activities.
- Selection of subcontractors.

Alan Van Norman, Vice President of CRA, will also be available as required with technical and/or logistical issues as the project progresses.

Technical Task Leaders

The CRA technical task leaders are responsible for the task-specific aspects of the RI/FS. The task leaders report to the project manager. The task leaders are as follows:

Health and Safety

Bill Doyle

Construction Project Manager

Wayne Bauman

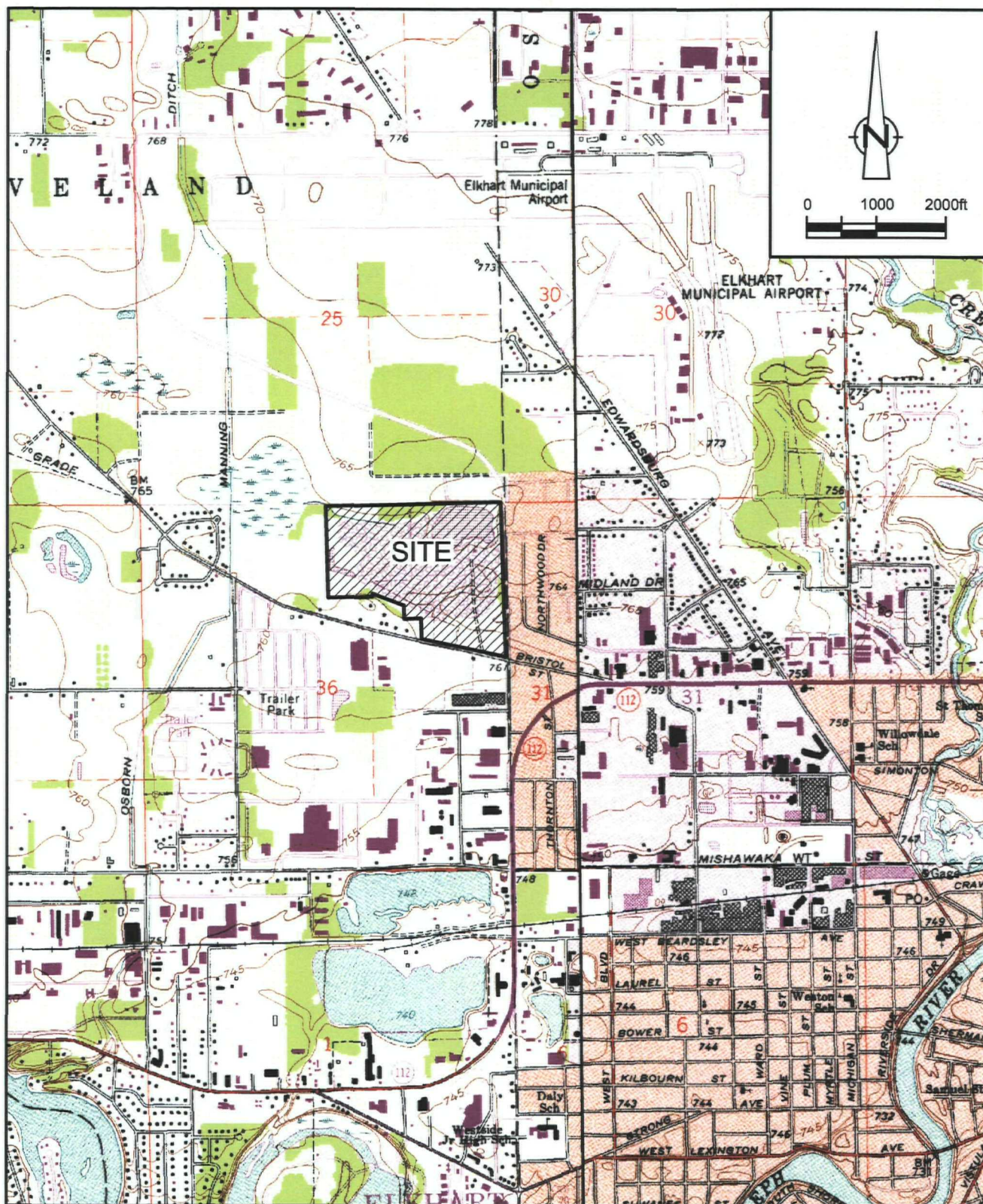
Water Supply Construction Manager

Don Osterhout

Field Staff

CRA field staff will be responsible for performing all field activities and for overseeing the activities of the subcontractors. Field staff will be available from our Kalamazoo, MI, Indianapolis, IN, or Chicago, IL offices.

FIGURES



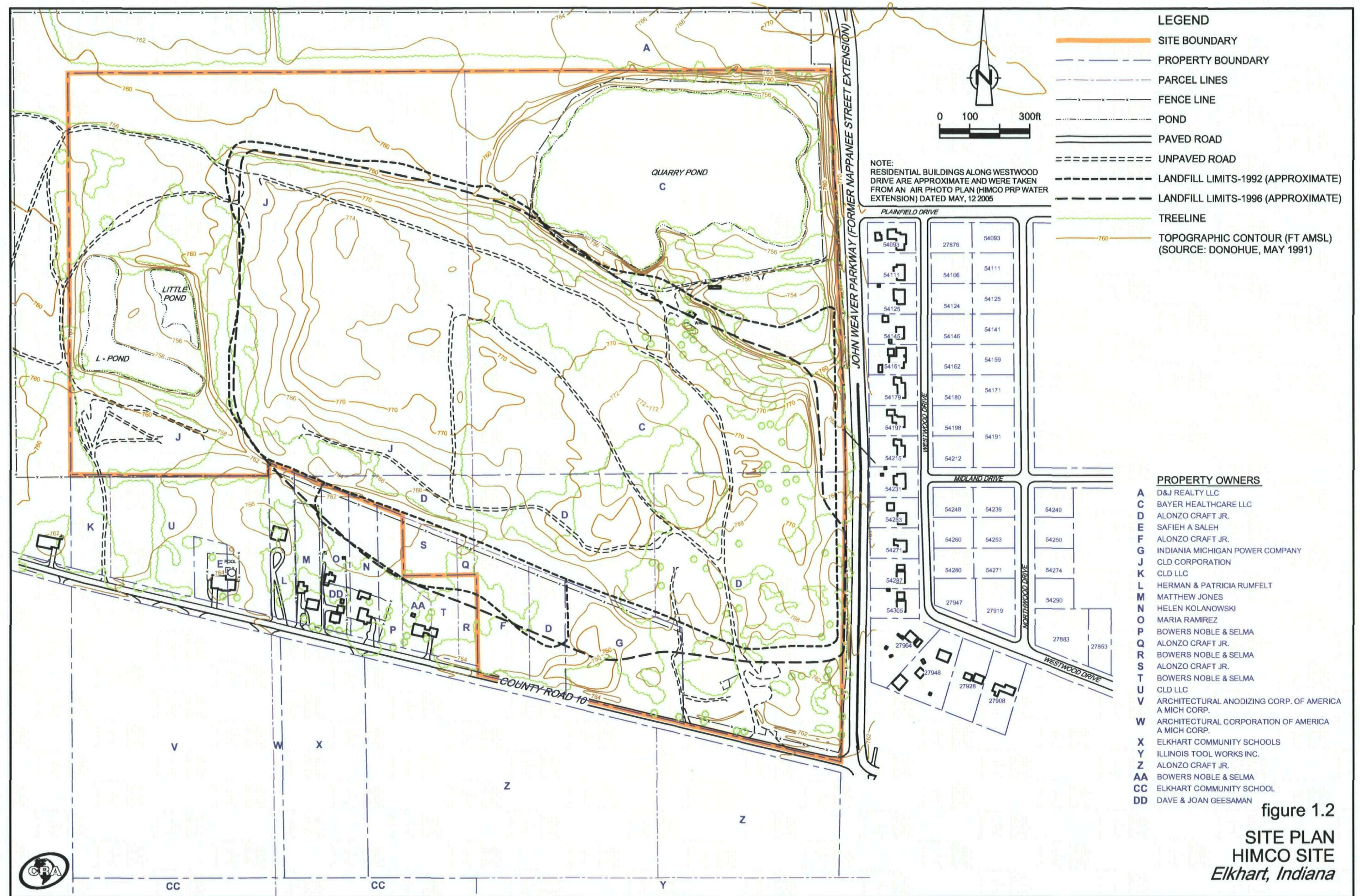
SOURCE: USGS QUADRANGLE MAPS;
ELKHART AND OSCEOLA, INDIANA

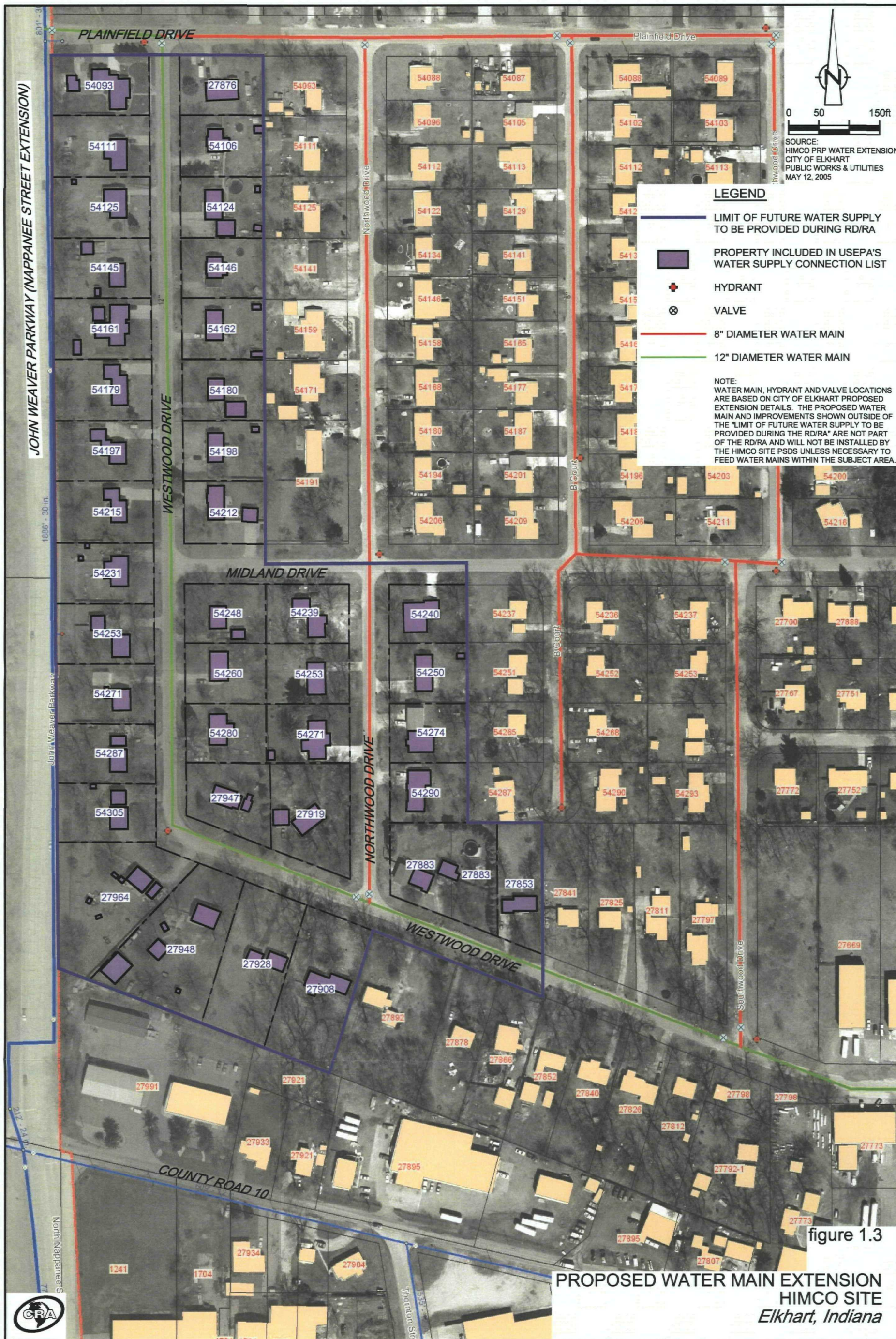


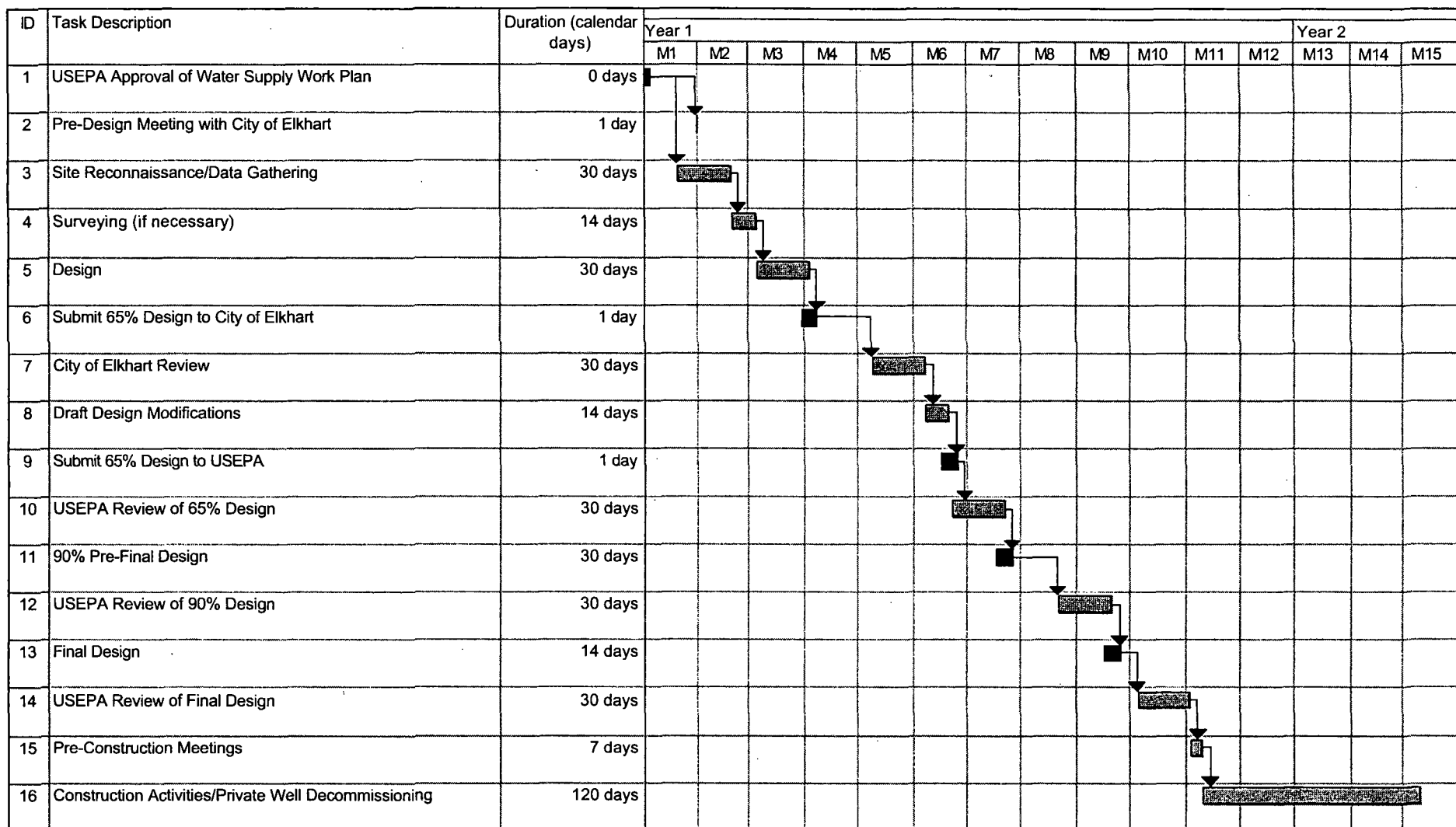
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figure 1.1

SITE LOCATION MAP
HIMCO SITE
Elkhart, Indiana







Project: 39611-Fig. 6.1 Himco
Date: Wed 5/7/08

Task ■ Milestone ■



FIGURE 6.1
RESIDENTIAL WELL ABANDONMENT AND MUNICIPAL WATER SUPPLY DESIGN SCHEDULE
HIMCO SITE
ELKHART, IN

USEPA REGION V
ROSS DELROSARIO

IDEM
JESSICA FLISS

HIMCO SITE TRUST
PROJECT COORDINATOR
GARY TOCZYLOWSKI, BAYER HEALTHCARE
ALTERNATE
PROJECT COORDINATOR
TOM LENZ, BAYER HEALTHCARE

CRA SHAREHOLDER-IN-CHARGE
ALAN VAN NORMAN

CRA PROJECT MANAGER
DENISE QUIGLEY, P.E.

CONSTRUCTION
PROJECT MANAGER
WAYNE BAUMAN

SENIOR
HYDROGEOLOGIST
ALAN DEAL

FIELD CO-ORDINATOR
FIELD QA/QC ENGINEER
STEPHEN DAVIS

IDEM SPECIALIST
/PERMITTING
SEAN GRADY

SENIOR PROJECT
CHEMIST
STEVE DAY

SENIOR LANDFILL
ENGINEER
RICK MOSHER

RISK
ASSESSOR
STEVE HARRIS, P.E.

CONSTRUCTION STAFF
CONSTRUCTION QC STAFF
PROJECT INDUSTRIAL HYGIENIST

LOCAL FIELD STAFF
CHICAGO, IL
INDIANAPOLIS, IN
KALAMAZOO, MI

QA/QC CHEMIST

PROJECT ENGINEERS
DOUGLAS GATRELL, P.E.
DAVID BARTON, P.E.



figure 7.1
PROJECT ORGANIZATION CHART
HIMCO SITE
Elkhart, Indiana

TABLES

TABLE 4.1

WELL ABANDONMENT LIST
HIMCO SITE, ELKHART, IN

1. 54093 Westwood Drive	24. 27928 Westwood Drive
2. 27876 Westwood Drive	25. 27908 Westwood Drive
3. 54111 Westwood Drive	26. 54248 Westwood Drive
4. 54106 Westwood Drive	27. 54260 Westwood Drive
5. 54125 Westwood Drive	28. 54280 Westwood Drive
6. 54124 Westwood Drive	29. 27947 Westwood Drive
7. 54145 Westwood Drive	30. 27883 Westwood Drive
8. 54146 Westwood Drive	31. 27853 Westwood Drive
9. 54161 Westwood Drive	32. 27919 Westwood Drive
10. 54162 Westwood Drive	33. 54271 Northwood Drive
11. 54179 Westwood Drive	34. 54253 Northwood Drive
12. 54180 Westwood Drive	35. 54239 Northwood Drive
13. 54197 Westwood Drive	36. 54240 Northwood Drive
14. 54198 Westwood Drive	37. 54250 Northwood Drive
15. 54215 Westwood Drive	38. 54274 Northwood Drive
16. 54212 Westwood Drive	39. 54290 Northwood Drive
17. 54231 Westwood Drive	40. 28279 County Road 10
18. 54253 Westwood Drive	41. 28213 County Road 10
19. 54271 Westwood Drive	42. 28330 County Road 10
20. 54287 Westwood Drive	43. 28331 County Road 10
21. 54305 Westwood Drive	44. 28343 County Road 10
22. 27964 Westwood Drive	45. 28369 County Road 10
23. 27948 Westwood Drive	46. 28399 County Road 10

TABLE 4.2

**MUNICIPAL WATER SUPPLY CONNECTION LIST
HIMCO SITE, ELKHART, IN**

1.	54093	Westwood Drive	21.	54305	Westwood Drive
2.	27876	Westwood Drive	22.	27964	Westwood Drive
3.	54111	Westwood Drive	23.	27948	Westwood Drive
4.	54106	Westwood Drive	24.	27928	Westwood Drive
5.	54125	Westwood Drive	25.	27908	Westwood Drive
6.	54124	Westwood Drive	26.	54248	Westwood Drive
7.	54145	Westwood Drive	27.	54260	Westwood Drive
8.	54146	Westwood Drive	28.	54280	Westwood Drive
9.	54161	Westwood Drive	29.	27947	Westwood Drive
10.	54162	Westwood Drive	30.	27883	Westwood Drive
11.	54179	Westwood Drive	31.	27853	Westwood Drive
12.	54180	Westwood Drive	32.	27919	Westwood Drive
13.	54197	Westwood Drive	33.	54271	Northwood Drive
14.	54198	Westwood Drive	34.	54253	Northwood Drive
15.	54215	Westwood Drive	35.	54239	Northwood Drive
16.	54212	Westwood Drive	36.	54240	Northwood Drive
17.	54231	Westwood Drive	37.	54250	Northwood Drive
18.	54253	Westwood Drive	38.	54274	Northwood Drive
19.	54271	Westwood Drive	39.	54290	Northwood Drive
20.	54287	Westwood Drive			